Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Defense Information Systems Agency

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0303126K: Long Haul Communications

BA 7: Operational Systems Development

COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	8.108	9.157	9.130	23.125	32.255	8.452	8.482	8.763	8.896	Continuing	Continuing
T82: DISN Systems Engineering Support	5.537	7.209	7.220	23.125	30.345	7.494	7.527	7.780	7.900	Continuing	Continuing
PC01: Presidential and National Voice Conferencing	2.571	1.948	1.910	0.000	1.910	0.958	0.955	0.983	0.996	Continuing	Continuing

#### Note

## A. Mission Description and Budget Item Justification

The Defense Information System Network (DISN) is the Department of Defense (DoD) consolidated worldwide telecommunications capability providing secure, end-to-end information transport for DoD operations, providing the warfighters and the Combatant Commanders (COCOMs) with a robust Command, Control, Communications, Computers, and Intelligence (C4I) infrastructure to support DoD mission and business requirements.

DISN Operational Support Systems: The DISN Operational Support Systems (OSS) provides the Information Technology (IT) components that instrument and automate the Operations, Administration, Maintenance, and Provisioning (OAM&P) functions for the DISN. OSS funds the engineering and integration efforts needed to integrate the management of network components into a single DISN-wide view for DISN managers and operators. This facilitates more responsiveness to users' provisioning requirements, quicker detection of and response to problems and outages, network tuning for more efficiency and performance, and more cost-effective management. As the DISN undergoes continuous technology refreshment, management capabilities of new components must be integrated into the OSS. The OSS incorporates a Service Oriented Architecture and is adhering to industry standards and best practices. DISA works actively with the Military Services to ensure that the DISN OSS and the Services' tactical networks share information and provide an end-to-end view for network operators.

DISN Systems Engineering Support: Funding supports systems engineering for technology refreshment of the Defense Red Switch Network (DRSN). This includes, (a) complete development of a modified version of the DSS-2A switch as a replacement for large capacity SDS-1 Red Switches that are at End-of-Life (EOL), and (b) to develop replacements for components and peripherals of the Red Switch to keep the entire DRSN system sustainable. The products developed and accredited as a result of this effort will be purchased and fielded by the Military Services and other authorized users of the network.

<sup>\*</sup>The FY 2011 total includes a request of \$23.125 million in OCO funding.

<sup>\*\*</sup>DoD has submitted a JUON Prior Approval Reprogramming for \$32.500 million of FY 2010 RDT&E in support of the DTCS effort.

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Defense Information Systems Agency

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 7: Operational Systems Development

PE 0303126K: Long Haul Communications

\*Distributed Tactical Communications System (DTCS):

The \*\*DTCS is a new variation of the Iridium Satellite Phone commercial offering used by the warfighter under the Enhanced Mobile Satellite Service (EMSS). The variation improves Iridium's capability to network and sub-network users to improve performance, reduce end-to-end latency and improve data handling to the handset. New handsets are required with software modifications to allow Iridium satellites to "relay" information between the satellites. A separate Network Management capability is required since the new service cannot leverage current the standard commercial Iridium Network Manager. Funding provides engineering, development and testing resources to transition the Naval Surface Weapons Center's (NSWC) Technology Prototype to a fully fielded operational capability.

NEADN/PNVC: The National Emergency Action Decision Network (NEADN) provides system engineering, development and testing of the Presidential and National Voice Conferencing (PNVC) equipment for senior leaders. The PNVC system provides a military satellite-based, world-wide, survivable, secure, and near toll-quality voice conferencing capability for the President, Secretary of Defense, Chairman, Joint Chiefs of Staff, and other senior national/military leaders. By implementing new technology capabilities (e.g. Ethernet-Framing and higher data rate), this project provides improved performance to the survivable voice conferencing capability. Specifically, the project funding supports the acquisition activities for the PNVC baseband equipment, including critical and essential engineering required to develop new vocoder and cryptographic, and audio-summing equipment. PNVC baseband development and production schedule is synchronized with the fielding of military Advanced Extremely High Frequency (AEHF) satellite communications (SATCOM) terminals.

If funding is not provided, the DISN will not be able to support the new and changing missions of the warfighter, technology refreshment efforts, and changing technology. Lack of sufficient funding will significantly impact the implementation of an enhanced, survivable voice conferencing capability to the President and other decision makers.

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Defense Information Systems Agency

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0303126K: Long Haul Communications

BA 7: Operational Systems Development

## **B. Program Change Summary (\$ in Millions)**

	FY 2009	FY 2010	<b>FY 2011 Base</b>	FY 2011 OCO	FY 2011 Total
Previous President's Budget	8.485	9.406	0.000	0.000	0.000
Current President's Budget	8.108	9.157	9.130	23.125	32.255
Total Adjustments	-0.377	-0.249	9.130	23.125	32.255
<ul> <li>Congressional General Reductions</li> </ul>		-0.249			
<ul> <li>Congressional Directed Reductions</li> </ul>		0.000			
<ul> <li>Congressional Rescissions</li> </ul>	0.000	0.000			
<ul> <li>Congressional Adds</li> </ul>		0.000			
<ul> <li>Congressional Directed Transfers</li> </ul>		0.000			
<ul> <li>Reprogrammings</li> </ul>	0.000	0.000			
<ul> <li>SBIR/STTR Transfer</li> </ul>	0.000	0.000			
<ul> <li>Other Adjustments</li> </ul>	-0.377	0.000	9.130	23.125	32.255

# **Change Summary Explanation**

The FY 2009 reduction of -\$0.377 million due to below budgeted execution of DISN systems Engineering Support on the DSS-2A Switch. The FY 2010 reduction of -\$0.249 million is a result of Congressional taxes for FFRDC related costs and Economic Assumptions. The DoD did not estimate FY 2011 cost when the FY 2010 President's Budget was prepared.

APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Det BA 7: Operational Systems Development  COST (\$ in Millions)  FY 2009 Actual Esti	3 2011 Defe	nse Informat	tion Systems	Agency				DATE: Feb	ruary 2010		
0400: Research, Development, Test	& Evaluatio	n, Defense-l	Vide				cations	PROJECT T82: DISN	Systems En	gineering Su	pport
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development  COST (\$ in Millions)  FY 2009 Actual  Estimate  FY 2010 Base Estimate  Estimate  FY 2011 FY 2012 FY 2013 FY 2014 Estimate Estimate  T82: DISN Systems Engineering Support  T82: DISN Systems Engineering Support  T82: DISN Systems Engineering Support  T83: DISN Systems Engineering Support	FY 2015 Estimate										
	5.537	7.209	7.220	23.125	30.345	7.494	7.527	7.780	7.900	Continuing	Continuing
Quantity of RDT&E Articles											

### **Note**

- \*The FY 2011 total includes a request of \$23.125 million in OCO funding.
- \*\*DoD has submitted a JUON Prior Approval Reprogramming for \$32.500 million of FY 2010 RDT&E in support of the DTCS effort.

## A. Mission Description and Budget Item Justification

Funds systems engineering of Operations Support Systems (OSS), which are comprised of the system management, network management, and element management systems. The OSS provides service support systems and network operations of the DISN and other entities. Specifically, this funding provides system engineering for the Data Mediation, Information Sharing Services for Voice, and Network Management Solutions for New DISN Element Technologies.

Provides systems engineering for Voice over Secure Internet Protocol (VoSIP) Real Time Services (RTS) for the DISN-wide network element management of day-to-day operations of the DoD and serves as the core DoD wartime communications for the President and Secretary of Defense, the Joint Chiefs of Staff (JCS), the Combatant Commands, and other critical users. Provides the engineering to consolidate operational communications networks into DISN and supports the convergence of Service and Agency network services (i.e. telephony, video, etc) into the Global Information Grid (GIG). Also funds system engineering evaluations and development of critical features for Secure VoIP RTS that is beyond the features of commercial VoIP offerings. VoSIP provides SECRET high secure voice service to over 90,000 DoD users at approximately 100 user enclaves worldwide. Expanded capabilities provide greater user productivity. The active directory service will improve and speed up the ability to locate users across the network. VoSIP system engineering is not funded beyond FY 2009.

Funds software development and system integration and testing for technology refreshment of the current DSS-2A Secure Voice Switch technology, with improvements to increase the capacity of the switch so that it can be used to replace the large SDS-1 model switches in the Defense Red Switch Network (DRSN) which are at end-of-life and must be replaced. There are no other viable alternatives that provide multi-level security, quality of service, assured service, conferencing and conference management, plus radio/satellite interfaces available in the near or mid-term. This funding provides incremental multi-year efforts to scale up the existing DSS-2A switch capacity so that the Services and Agencies can purchase and install the modified switch to replace their obsolete SDS-1 switches. The DSS-2A modification effort completes in FY 2011.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information Systems Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE** 

**PROJECT** 

0400: Research, Development, Test & Evaluation, Defense-Wide PE 0303126K: Long Haul Communications T82: DISN Systems Engineering Support BA 7: Operational Systems Development

Funds the Engineering Change Proposal (ECP) process for other DRSN peripherals such as remote phone distribution multiplexers, telephones and STE's and Milstar systems interfaces. Secure Voice Switches must meet a number of military unique requirements for multilevel security, extensive conferencing and conference management capabilities and features, and gateway functions that are not available in commercial products. Because of the proprietary multi-level security and conferencing solutions embedded in Secure Voice Switch equipment, the only alternative to wholesale replacement is the Engineering Change Proposal (ECP) process which is used to identify and manage the development of replacement parts and peripherals that are necessary to ensure the continued supportability of the system. Substitution of a commercial product is impractical due to requirements for interoperability and security. The cost of modifying another vendor's commercial product has been examined and would be prohibitive and no commercial vendor has expressed interest, especially considering the limited market. Starting in FY 2010, system engineering for DRSN shifts to funding and executing ECP to update switch components and peripherals to replace obsolete parts and ensure continued logistics supportability.

The DTCS funding will provide engineering, development, and testing resources to transition the Naval Surface Weapons Center's (NSWC) Technology Prototype to a fully fielded operational capability. The Prototype Service and 100 handsets are already fielded as part of the NSWC Pilot effort. Follow-on Research and Development (R&D) efforts include additional handset procurement of 2 handset variants (Command and Control and Secret Command and Control), Network Management System, User Control Interface, and Satellite Software Modifications. Life-Cycle support issues will be addressed through the Defense Working Capital Fund.

# B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
OSS Activity	0.945	1.490	1.317	0.000	1.317
FY 2009 Accomplishments:  Single Sign-On Solution – In FY 2009, funding procured professional services for the Single Sign-on Solution, supporting a single point of entry to the Operations Support Systems (OSS) Central, the main operator interface into the DISN OSS. The OSS Central provides a unified information portal as a single point of access for obtaining information about the DISN.  Web Based Mediation – In FY 2009, funding provided systems research, evaluation, test, and development of a web-based mediation/administration Common Communications Vehicle (CCV). The CCV provides functionality to move the data mapping and configuration activities from software development to application configuration, allowing Tier III sustainment personnel to make faster					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information Systems Agency **DATE:** February 2010 **PROJECT** APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE** 0400: Research, Development, Test & Evaluation, Defense-Wide PE 0303126K: Long Haul Communications T82: DISN Systems Engineering Support BA 7: Operational Systems Development B. Accomplishments/Planned Program (\$ in Millions) FY 2011 FY 2011 FY 2011 **FY 2009 FY 2010** Base OCO Total changes to the data mediation system in support of changing requirements. The completion of the CCV marks the end of Phase I of the data mediation phase. FY 2010 Plans: In FY 2010, the funding will provide the capability of standardization for all data sharing interfaces for network management data and the implementation of a shared data model on service oriented architecture for all OSS applications. The objective of this effort is to support the information sharing objectives of the DoD. In addition, this provides a unified view and situational awareness through a common user interface for obtaining information about the DISN. Specific activities for FY 2010 include completion of Phase II of the data mediation project, which entails operationalizing the data mediator tool and enabling it to deploy mediations to the Common Communications Vehicle (CCV). FY 2011 Base Plans: In FY 2011, the funding will provide a standardized capability for all data sharing interfaces for network management data and the implementation of a shared data model on service oriented architecture for all Operations System Supports (OSS) applications. This effort supports the information sharing and network operations objectives of a unified view and situational awareness through a common user interface for obtaining information about the DISN. Specific activities for FY 2011 include the development of additional "out-of-the-box" data translations as well as additional data protocols for pulling data to and pushing data from the CCV in the production environment. This funding is critical in providing the integration of OSS systems through the CCV. The CCV provides network management data interface and mediation capabilities among OSS systems utilized by DISN network operators and customers. This function is critical to ensure the operational awareness and viability of the DISN. Funding this initiative will result in decommissioning of stove-pipe network management systems which will decrease costs and time caused effects required to exchange data among systems.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information Systems Agency

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide
BA 7: Operational Systems Development

PB 2011 Defense Information Systems Agency

R-1 ITEM NOMENCLATURE
PE 0303126K: Long Haul Communications

PROJECT
T82: DISN Systems Engineering Support

# B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Information Sharing Services for Voice - In FY 2011, funding for this requirement supports data sharing of systems providing management of DISN voice services. The capability includes the development of data standards, data sharing interfaces, web services for legacy voice and Real Time Services (RTS) network management systems. These capabilities are critical to integrate the data for these services into the DISN OSS. This supports network operations with a unified view of the network management and situation awareness of DISN voice services along with the timely provisioning of these services to DISN customer. Funding will decrease response time to problems and provisioning of voice services.					
Network Management Solutions for New DISN Technologies – In FY 2011, this capability is fundamental in providing network management support for new DISN catalogue services. Because the DISN is evolving, the Operations System Supports (OSS) must integrate network management of new technologies and services. FY 2010 and FY 2011 activities include research on network management solutions for Secure Voice over IP and Real Time Services (RTS) technologies. Providing network management in parallel with the deployment of new DISN services and technologies is vital to supporting network operations and ultimately DISN customers. Funding is required to support the new and changing missions of the warfighter, technology refreshment efforts, changing technology and industry standards.					
VoSIP	0.615	0.000	0.000	0.000	0.000
FY 2009 Accomplishments:  System Engineering for Voice over Secure IP (VoSIP) – In FY 2009, DISA initiated a project to develop an active directory capability for use throughout the VoSIP user community. The project is expected to deliver a vendor neutral interface control document, one test and two operational installations of the directory service in support of the over 90,000 users of the service.					
Tech Refresh (DSS-2A)	3.977	3.729	3.912	0.000	3.912

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FY 2011

Total

FY 2011

Base

**FY 2009** 

**FY 2010** 

FY 2011

OCO

Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information Systems Agency

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0303126K: Long Haul Communications

T82: DISN Systems Engineering Support

BA 7: Operational Systems Development

# B. Accomplishments/Planned Program (\$ in Millions)

# FY 2009 Accomplishments:

Systems Engineering for DSS-2A Modification for large switch replacement – FY 2009 continued development of hardware and software as part of the multi-year effort. Completion of Phase I productized the modified chassis with fiber optic ports, revised the Bus Controller and new Matrix Daughter cards, and enabled implementation of the expanded capacity capability. Completed software development and integration as defined in Phase II of the project, which delivered a two chassis switch configuration to the government for testing at the Joint Interoperability Test Command (JITC). Continued development work on Phase III of the project including detailed functional and software specification, and beginning phases of software development.

#### FY 2010 Plans:

FY 2010 funding continues work on the Phase III component of the effort including system integration, software modification, system testing and information assurance validation and accreditation of a modified version of the existing DSS-2A secure voice switch, as part of the effort leading to delivery or a prototype system for government testing and accreditation. This modification is required because the legacy switch is at end-of-life and is not expected to be logistically supportable past FY 2010. In addition, this modified version will support up to three times the capacity of the current DSS-2A model, with all the same military unique features and capabilities.

#### FY 2011 Base Plans:

FY 2011 funding supports the delivery of the Phase III system for testing and accreditation, with continued project cleanup and testing support. Completion of phase III will be a complete large capacity secure voice switch capable of replacing the large obsolete SDS-1 switches currently in use in the DRSN and the White House Communications Agency controlled Secure voice network. Once developed and accredited, the Services and Defense agencies will procure and install the switches. If not funded, critical testing and accreditation activities would be affected which could negatively impact the viability of the entire multiyear effort.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information Systems Agency **DATE:** February 2010 **PROJECT** APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE** 0400: Research, Development, Test & Evaluation, Defense-Wide PE 0303126K: Long Haul Communications T82: DISN Systems Engineering Support BA 7: Operational Systems Development B. Accomplishments/Planned Program (\$ in Millions) FY 2011 FY 2011 FY 2011 **FY 2009** FY 2010 Base OCO Total **ECP DRSN Components** 0.000 1.990 1.991 0.000 1.991 FY 2010 Plans: FY 2010 initiates a regular process to re-engineer and redesign the Defense Red Switch Network (DRSN) switch components and peripherals to address electronic component obsolete parts, issues and maintain the viability of the Defense Red Switch Network (DRSN) switch system. Several Engineering Change Proposals (ECPs) per year will be funded for development and testing of redesigned and replacement parts in order to maintain the logistics supportability of the entire system. FY 2010 will concentrate on the ECP for the switch processor carrier board. This will replace the current processor card which has an announced end of life cycle. The replacement will use the existing matrix daughter card without modification and be backward compatible. FY 2011 Base Plans: FY 2011 funding will continue the regular process to re-engineer and redesign DRSN components and peripherals and is expected to include ECPs for the Command Center Console and one switch interface card or phone. If not funded, the DRSN will be unable to re-engineer components and peripherals to eliminate obsolete components that would result in degraded performance and negatively impacting the sustainability of the installed systems. **DTCS** 0.000 23.125 23.125 0.000 0.000 \*Distributed Tactical Communications System (\*\*DTCS) supports the warfighter by enabling faster mobile satellite phone services. The enhanced capability requires Satellite Software modifications, new handsets, and a separate Network Management System. FY 2011 Base Plans:

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N/A

Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information Systems Agency

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0303126K: Long Haul Communications

T82: DISN Systems Engineering Support

BA 7: Operational Systems Development

# B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Pending approval of the FY 2010 Joint Urgent Operational Needs (JUON) Reprogramming Action, the program will begin delivery of CC-0278 capability to Central Command (CENTCOM) Joint Urgent Operational Needs (JUON); USFOR-A request for 4,215 units; Field Application and Network Management tools; Handset modification for Command and Control (C2) functionality; extended range, multi-beam capability; and integrate for tactical vehicle use.  In FY 2011, the program will complete delivery of CC-0278 capability to CENTCOM JUON; complete Field Application and Network Management tools; and Handset modification C2 functionality.  The warfighter will benefit from the push-to-talk, network communications beyond the line-of-sight, on-the-move command and control functionality. The additional handsets with the added capability will have increased range, multi-beam network management capability, and enhanced handset display and data.						
Accomplishments/Planned Programs Subtotals	5.537	7.209	7.220	23.125	30.345	,

# C. Other Program Funding Summary (\$ in Millions)

			FY 2011	FY 2011	<u>FY 2011</u>					Cost To	
<u>Line Item</u>	FY 2009	FY 2010	<b>Base</b>	OCO	<u>Total</u>	FY 2012	FY 2013	FY 2014	FY 2015	<b>Complete</b>	<b>Total Cost</b>
• O&M, DW/PE 0303126K: O&M,	106.728	102.396	104.396		104.396	105.946	118.807	122.510	125.530	Continuing	Continuing
DW											
<ul> <li>Procurement, DW/PE 0303126K:</li> </ul>	94.784	90.311	86.206		86.206	86.254	86.597	89.596	90.860	Continuing	Continuing
Procurement, DW											

## D. Acquisition Strategy

Products acquired for OSS requirements are professional services, network management software, supporting hardware, and development tools. Professional services will be procured through existing contracts available to DISA such as DISN Global Services (DGS) and DNMSS-G (and replacement vehicles), are either time

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information Systems Agency **DATE:** February 2010 **PROJECT** APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE** 0400: Research, Development, Test & Evaluation, Defense-Wide

BA 7: Operational Systems Development

PE 0303126K: Long Haul Communications T82: DISN Systems Engineering Support

and materials (T&M), or firm fixed price (FFP). For hardware and software, the DISA Computing Services group will be utilized for leased managed services, as well as the NASA enterprise equipment contracting vehicle when necessary and applicable.

The DSS-2A large switch modification and DRSN components will use an existing Air Force contract with the DSS-2A manufacturer to perform the development and modification work, system integration and testing support.

The DTCS effort will be initiated within 96 hours of receipt of funding. Meetings will be held at NSWC between all government and contractor teams to baseline the system, adjudicate risk, and develop common system expectations. A Preliminary Design Review (PDR) will be held 30 days after award of the R&D effort. PDR will result in a freeze of all requirements. A Critical Design Review (CDR) will be held 60 days after the PDR. CDR will result in a freeze of the total DTCS system. CDR also begins the Government Configuration Management process for change control and risk management. A planned 4-hour review will be held monthly to assess all open actions and oversee all program actions.

#### **E. Performance Metrics**

- 1. Planned versus actual schedule (difference in days) for major milestones/deliverables.
- 2. Number of planned versus actual funds spent.
- 3. Adherence of contractor deliverables to SOW specifications.
- 4. Compliance with Performance Surveillance Plans contained in contracted efforts.

FY 2009 FY 2010 FY 2011

Development of OSS Central Execute funds within **Execute Funds within** 

(Completion planned FY 2011) 5%of Planned 5% of Planned

Data Mediation - Phase I Plan Met

Data Mediation - Phase II **Execute Funds within** Execute funds within

(Completion planned FY 2010) 5% of Planned 5% of Planned

Network Mgt Solution - VoIP Execute funds within Execute Funds within

(Completion planned FY 2011) 5% of Planned 5% of Planned

Network Mgt Solution – RTS Execute funds within Execute Funds within

(Completion planned FY 2011) 5% of Planned 5% of Planned

Specific DRSN VoSIP Metrics:

Delivery and successful award of contract 100% Planned 100% Planned

DSS-2A and DRSN Components:

Delivery and successful award of contract 100% Planned 100% Planned

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information	mation Systems Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0303126K: Long Haul Communications	PROJECT T82: DISN	Systems Engineering Support
On Time, within cost estimate delivery DTCS Effort: Deliver C2S Handset for Operational Testing (Completion planned FY 2011) Procure Initial Radio Order (Completion planned FY 2011) Net Manager Phase 2 Capability (Completion planned FY 2011) Production capability (Completion planned FY 2011)	95%	Execute f 5% of Execute fu 5% of Execute	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Defense Information Systems Agency

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

**PROJECT** 

0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development

PE 0303126K: Long Haul Communications

T82: DISN Systems Engineering Support

**Product Development (\$ in Millions)** 

				FY 2	2010	FY 2 Ba	-	FY 2		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Single Sign-on	TM	SAIC DISA	1.397	0.000		0.000		0.000		0.000	0	1.397	Continuing
Web-Based Mediation	TM	Apptis DISA	0.432	0.460	Jan 2010	0.420	Jan 2011	0.000		0.420	0	1.312	Continuing
Information Sharing Services for Voice	TM	Apptis DISA	0.000	0.529	Jan 2010	0.359	Jan 2011	0.000		0.359	0	0.888	Continuing
Network Management Solutions for New DISN Element Technologies	TM	SAIC DISA	0.180	0.501	Mar 2010	0.569	Mar 2011	0.000		0.569	0	1.250	Continuing
Systems Engineering for VoSIP	Various/ CPFF	Various Performers Various	1.218	0.000		0.000		0.000		0.000	0	1.218	Continuing
Systems Engineering for DRSN Components & Peripherals	TM	Raytheon FL	0.000	1.990	Nov 2009	1.991	Nov 2010	0.000		1.991	Continuing	Continuing	Continuing
Systems Engineering for DSS-2A Secure Voice Switch Replacement	TM	Raytheon FL	11.551	3.729	Nov 2009	3.881	Oct 2010	0.000		3.881	Continuing	Continuing	Continuing
Distributed Tactical Communications System (DTCS)	MIPR	Naval Surface Warfare Center VA	0.000	0.000		0.000		13.125	Oct 2010	13.125	Continuing	Continuing	13.125
		Subtotal	14.778	7.209		7.220		13.125		20.345	0.000	6.065	13.125

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Defense Information Systems Agency

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

**PROJECT** 

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0303126K: Long Haul Communications

T82: DISN Systems Engineering Support

Test and Evaluation (\$ in Millions)

				FY 2	010	FY 2 Ba	-	FY 2		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
*Distributed Tactical Communications System (**DTCS)	MIPR	JITC Ft. Huachuca, AZ	0.000	0.000		0.000		10.000	Oct 2010	10.000	Continuing	Continuing	10.000
		Subtotal	0.000	0.000		0.000		10.000		10.000			10.000

#### Remarks

	Total Prior Years Cost	FY 2	2010		2011 ase	FY 20		Cost To	Total Cost	Target Value of Contract
Project Cost Totals	14.778	7.209		7.220		23.125	30.345	0.000	6.065	23.125

#### Remarks

<sup>\*</sup>The FY 2011 total includes a request of \$23.125 million in OCO funding.

<sup>\*\*</sup>DoD has submitted a JUON Prior Approval Reprogramming for \$32.500 million of FY 2010 RDT&E in support of the DTCS effort.

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Defense Information Systems Agency

APPROPRIATION/BUDGET ACTIVITY

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**R-1 ITEM NOMENCLATURE** 

**PROJECT** 

0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development

PE 0303126K: Long Haul Communications

T82: DISN Systems Engineering Support

**DATE:** February 2010

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Single Sign-On: Implementation																												Г
Web-Based Mediation Admin Analyze Requirements																												
Web-Based Mediation Admin Phase I Complete																												
Web-Based Mediation Admin Phase II Complete																												
Web-Based Mediation Admin Phase III Complete																												
Information Sharing Services for Voice Legacy Systems																												
Information Sharing Services for Voice Real Time Services (RTS)																												
Network Management Solutions for New DISN Technologies Definition																												
Network Management Solutions for New DISN Technologies Implementation																												
Network Management Solutions for New DISN Technologies Deployment																												
Systems Engineering for Voice over Secure Internet Protocol (VoSIP)																												
Systems Engineering for DRSN Components and Peripherals																												I

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Defense Information Systems Agency

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

**R-1 ITEM NOMENCLATURE** 

**PROJECT** 

0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development

PE 0303126K: Long Haul Communications

T82: DISN Systems Engineering Support

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	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		2	3	4	1	2	3	4
Systems Engineering for DSS-2A Secure Voice Switch Replacement																													

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Defense Information Systems Agency

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

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**R-1 ITEM NOMENCLATURE** 

**PROJECT** 

0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development

PE 0303126K: Long Haul Communications

T82: DISN Systems Engineering Support

## Schedule Details

	Sta	art	En	d
Event	Quarter	Year	Quarter	Year
Single Sign-On: Implementation	1	2009	4	2009
Web-Based Mediation Admin Analyze Requirements	1	2009	1	2009
Web-Based Mediation Admin Phase I Complete	2	2009	4	2009
Web-Based Mediation Admin Phase II Complete	1	2010	3	2010
Web-Based Mediation Admin Phase III Complete	4	2010	3	2011
Information Sharing Services for Voice Legacy Systems	2	2010	4	2010
Information Sharing Services for Voice Real Time Services (RTS)	1	2011	4	2011
Network Management Solutions for New DISN Technologies Definition	1	2010	1	2010
Network Management Solutions for New DISN Technologies Implementation	2	2010	1	2011
Network Management Solutions for New DISN Technologies Deployment	2	2011	3	2011
Systems Engineering for Voice over Secure Internet Protocol (VoSIP)	2	2009	1	2010
Systems Engineering for DRSN Components and Peripherals	1	2010	4	2015
Systems Engineering for DSS-2A Secure Voice Switch Replacement	1	2009	3	2011

Exhibit R-2A, RDT&E Project Jus	tification: Pl	3 2011 Defe	nse Informat	tion Systems	Agency				DATE: Feb	ruary 2010	
APPROPRIATION/BUDGET ACTIV 0400: Research, Development, Tes BA 7: Operational Systems Develop	t & Evaluatio	n, Defense-l	Nide		<b>IOMENCLA</b> 6K: <i>Long Ha</i>	TURE ul Communi	cations	PROJECT PC01: Pres Conferencia	sidential and	National Voi	ice
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
PC01: Presidential and National Voice Conferencing	2.571	1.948	1.910	0.000	1.910	0.958	0.955	0.983	0.996	Continuing	Continuing
Quantity of RDT&E Articles											

## A. Mission Description and Budget Item Justification

The National Emergency Action Decision Network (NEADN) provides system engineering, development and testing of the Presidential and National Voice Conferencing (PNVC) equipment for senior leaders. The PNVC system provides a military satellite-based, world-wide, and survivable, secure, and near toll-quality voice conferencing capability for the President, Secretary of Defense, Chairman, Joint Chiefs of Staff, and other senior national/military leaders. By implementing new technology capabilities (e.g. Ethernet-Framing and higher data rate), this project provides improved performance to the survivable voice conferencing capability. Specifically, the project funding supports the acquisition activities for the PNVC baseband equipment, including critical and essential engineering required to develop new vocoder and cryptographic, and audio-summing equipment. PNVC baseband development and production schedule is synchronized with the fielding of military Advanced Extremely High Frequency (AEHF) satellite communications (SATCOM) terminals. Lack of sufficient funding will significantly impact the implementation of an enhanced, survivable voice conferencing capability to the President and other decision makers.

## B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
NEADN/PNVC Systems Engineering	2.571	1.948	1.910	0.000	1.910
NEADN/PNVC Systems Engineering - Conduct analyses for continuity of NEADN voice conferencing for national/military leaders through the PNVC deployment. Continue engineering, technical analysis, development and coordination to ensure terminal, baseband, and satellite synchronization for voice conferencing amongst senior leaders.					
FY 2009 Accomplishments: In FY 2009 funding was used to complete engineering analyses that supported the technical specifications of the Defense Red Switch Network (DRSN) interface equipment; efforts to scope					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Information Systems Agency

R-1 ITEM NOMENCLATURE

PROJECT

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0303126K: Long Haul Communications

PC01: Presidential and National Voice

FY 2011

Base

**DATE:** February 2010

FY 2011

OCO

FY 2011

Total

Conferencing

FY 2010

B. Accomplishments/Planned Program (\$ in Millions)

APPROPRIATION/BUDGET ACTIVITY

BA 7: Operational Systems Development

equipment changes required to interface the PNVC baseband equipment with the AEHF GEMS terminal; the development of a requirements document for special users; and the transition of survivable networks to a Net-Centric environment.

#### FY 2010 Plans:

In FY 2010 funding will be used to update the PNVC Capabilities Production Document and define the Concept of Operations (CONOPS) for PNVC to fully utilize the enhanced capabilities provided by the system. Funding will initiate the development of MSD-III and other DRSN interface equipment, which continues into FY 2011. Funding will be used to begin preparations for PNVC Baseband Interface Group (BIG) development contract including refreshing the equipment specifications.

#### FY 2011 Base Plans:

In FY 2011, development contract preparations will continue towards the goal of a contract award in 1Q FY 2012. Funding will be used to conduct development testing and evaluation of the MSD-III PNVC/DRSN interface equipment.

Accomplishments/Planned Programs Subtotals	2.571	1.948	1.910	0.000	1.910

**FY 2009** 

# C. Other Program Funding Summary (\$ in Millions)

			FY 2011	FY 2011	FY 2011					Cost To	
<u>Line Item</u>	FY 2009	FY 2010	<b>Base</b>	OCO	<u>Total</u>	FY 2012	FY 2013	FY 2014	FY 2015	<b>Complete</b>	Total Cost
• O&M, DW/PE 0303126K: <i>O&amp;M</i> ,	106.728	102.396	104.396		104.396	105.946	118.807	122.510	125.530	Continuing	Continuing
DW											
Procurement, DW/PE 0303126K:	94.784	90.311	86.206		86.206	86.254	86.597	89.596	90.860	Continuing	Continuing

Procurement, DW

# D. Acquisition Strategy

Engineering support for the NEADN is provided by existing DoD contracts and FFRDC support.

**UNCLASSIFIED** 

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Defense Info	rmation Systems Agency	<b>DATE</b> : February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0303126K: Long Haul Communications	PROJECT PC01: Presidential and National Voice Conferencing
E. Performance Metrics  PNVC project metrics track the development of various documents (SEP), and other documents needed to manage the project. Data certification efforts.		erations (CONOPS), System Engineering Plan

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Defense Information Systems Agency

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APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0303126K: Long Haul Communications

**PROJECT** 

PC01: Presidential and National Voice

Conferencing

# **Product Development (\$ in Millions)**

				FY 2	010	FY 2 Ba	2011 se	FY 2		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering for NEADN/PNVC	FFRDC	Aerospace Corp Falls Church, VA	0.765	0.400	Nov 2009	0.378	Mar 2010	0.000		0.378	0	1.543	N/A
Systems Engineering for NEADN/PNVC 2	Various/ CPFF	Booz Allen Hamilton McLean, VA	2.314	0.500	Mar 2010	0.600	Dec 2010	0.000		0.600	0	3.414	N/A
Systems Engineering for NEADN/PNVC 3	Various	Various Various	1.974	1.048		0.932		0.000		0.932	0	3.954	N/A
		Subtotal	5.053	1.948		1.910		0.000		1.910	0.000	8.911	

#### Remarks

	Total Prior Years Cost	FY 2010		2011 ase	FY :	2011 CO	FY 2011 Total	Cost To	Total Cost	Target Value of Contract
Project Cost Totals	5.053	1.948	1.910		0.000		1.910	0.000	8.911	

#### Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Defense Information Systems Agency

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0303126K: Long Haul Communications

**PROJECT** 

PC01: Presidential and National Voice

**DATE:** February 2010

Conferencing

	F	<b>Y</b>	200	9	F	Υ 2	201	0	ı	<b>Y</b>	201	1	F	FY 2	201	2	F	Y 2	201	3	F	Y 2	201	4	F	Υ 2	2015	5
	1	2	3	4	1	2	3			2	3			2	3		1	2		4			3		1	2	3	4
Systems Engineering for NEADN/PNVC																												
GEMS Eng Study																												
Conference Management Study																												
PNVC CONOPS																												
PNVC Baseband Interface Group (BIG) Specification Refresh																												
PNVC Capabilities Production Doc																												
PNVC/DRSN Interface Spec Dev																												
PNVC/DRSN Interface Equip Dev																												
PNVC Net-centricity analysis																												
Special Users Requirements Doc																												
PNVC Development Contract Preps																												

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Defense Information Systems Agency

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0303126K: Long Haul Communications

**PROJECT** 

PC01: Presidential and National Voice

Conferencing

## Schedule Details

	St	art	Er	nd
Event	Quarter	Year	Quarter	Year
Systems Engineering for NEADN/PNVC	1	2009	4	2015
GEMS Eng Study	1	2009	4	2009
Conference Management Study	3	2009	4	2009
PNVC CONOPS	1	2010	4	2010
PNVC Baseband Interface Group (BIG) Specification Refresh	2	2010	4	2010
PNVC Capabilities Production Doc	1	2010	3	2010
PNVC/DRSN Interface Spec Dev	3	2009	1	2010
PNVC/DRSN Interface Equip Dev	2	2010	4	2011
PNVC Net-centricity analysis	4	2009	3	2010
Special Users Requirements Doc	4	2009	1	2010
PNVC Development Contract Preps	1	2010	4	2011